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1 # R code 1
2
3 # R code 2 file has more detailed comments
4 # R code 3 file has black/white disparity plots
5
6 # Pino Trogu
7 # School of Design -- San Francisco state University
8 # DATA? TA-DA!
9 # Data Viz Workshop 2019-02-20
10 # CA 260 - 4:00 - 6:00 PM
11 # ALL CODE BELOW PROVIDED "AS IS"
12
13 # from environment pane, import two separate datasets: health care spending (hc_Spend.txt) & breast
... cancer (breCan.txt)
14 # familiarize yourself with the datasets, breCan has 13 columns
15
16 # plot matrix of possible plots for breCan (13 x 13 grid)
17 plot(breCan)
18
19 # plot only columns 1 through 5 and then columns 1 through 3
20 plot(breCan[1:5])
21 plot(breCan[1:3])
22
23 # summary for breCan dataset (info appears in console)
24 summary(breCan)
25
26 # plot matrix for hcSpend
27 plot(hcSpend)
28
29 # *****
30 # BAR 1
31 # BAR CHART (BARPLOT) INCIDENCE
32 # *****
33
34 # barplot breast cancer incidence per 100K F pop. by state 2011-2015
35 # yearly average during the 5-year period
36 barplot(breCan$inc11_15, names.arg=breCan$state)
37
38 #sort by incidence, not alpha by by state name
39 sortByInc <- breCan[order(breCan$inc11_15, decreasing = TRUE), ]
40
41 # define anchor points for states labels & add title
42 midpts <- barplot(sortByInc$inc11_15, main="Breast cancer incidence per 100K F pop. 2011-2015")
43
44 # add state names (vertical)
45 text(x=midpts+.5, y=-1, sortByInc$state, cex=0.5, srt=90, xpd=TRUE, pos=2)
46
47 # add state names (45 degree angle -- run from line 35 but skip 44)
48 text(x=midpts+.5, y=-1, sortByInc$state, cex=0.5, srt=45, xpd=TRUE, pos=2)
49
50 # export plot (save as PDF)
51 # end barplot breast cancer incidence rate
52
53
```

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54 # *****
55 # BAR 2
56 # BAR CHART (BARPLOT) MORTALITY
57 # *****
58
59 # barplot breast cancer mortality per 100K F pop. by state 2012-2016
60 # yearly average during the 5-year period
61
62 barplot(breCan$mort12_16, names.arg=breCan$state)
63
64 sortByMort <- breCan[order(breCan$mort12_16, decreasing = TRUE), ]
65
66 midpts <- barplot(sortByMort$mort12_16, main="Breast cancer mortality per 100K F pop. 2012-2016")
67
68 text(x=midpts+.5, y=-1, sortByMort$state, cex=0.5, srt=45, xpd=TRUE, pos=2)
69
70 # export plot (save as PDF)
71 # end barplot breast cancer mortality rate
72
73
74 # *****
75 # BAR 3
76 # BAR CHART (BARPLOT) PER CAPITA HEALTH CARE SPENDING
77 # *****
78
79 # barplot per capita health care spending 2014
80
81 barplot(hcSpend$spend14, names.arg=hcSpend$state)
82
83 sortBySpend <- hcSpend[order(hcSpend$spend14, decreasing = TRUE), ]
84
85 midpts <- barplot(sortBySpend$spend14, main="Health care per capita spending 2014")
86
87 text(x=midpts+.5, y=-1, sortBySpend$state, cex=0.5, srt=45, xpd=TRUE, pos=2)
88
89 # export plot (save as PDF)
90 # end barplot per capita spending
91
92
93 # *****
94 # SCATTER 1
95 # SCATTERPLOT HEALTH CARE SPENDING (X-axis) AND MORTALITY (Y-axis)
96 # data from two separate files
97 # *****
98
99 plot(hcSpend)
100 plot(hcSpend[1:3])
101 plot(breCan)
102 plot(breCan[1:3])
103
104 # scatterplot 1
105 # health care spending (from first file) for X
106 # breast cancer mortality (from second file) for Y
107 # plot X from column 2 in first dataset (hcSpend.txt)
```

```
108 # plot Y from column 2 in second dataset (breCan.txt)
109
110 plot(hcSpend$spend14, breCan$mort12_16)
111
112 summary(hcSpend)
113
114 summary(breCan)
115
116
117 # define X and Y range (xlim and ylim)
118 # add main title
119 plot(hcSpend$spend14,
120       breCan$mort12_16,
121       xlim = c(6000,11000),
122       ylim = c(17,24),
123       main="Health care spending 2014 -- Breast cancer mort. 2012-2016"
124       )
125
126 # define X and Y exact data range
127 plot(hcSpend$spend14,
128       breCan$mort12_16,
129       xlim = c(6452,10559),
130       ylim = c(18,23.40),
131       main="Health care spending 2014 -- Breast cancer mort. 2012-2016"
132       )
133
134 # add state names
135 text(hcSpend$spend14,
136       breCan$mort12_16,
137       breCan$state, cex=0.5)
138
139 # export plot (save to PDF)
140 # end scatterplot 1
141
142
143 # *****
144 # SCATTER 2
145 # SCATTERPLOT INCIDENCE (X-axis) AND MORTALITY (Y-axis)
146 # data from a single dataset file
147 # *****
148
149 # scatterplot 2
150 # 2 variables from the same dataset file
151 # breast cancer incidence for X
152 # breast cancer mortality for Y
153
154 plot(breCan)
155 plot(breCan[1:5])
156 plot(breCan[1:3])
157
158 plot(breCan$inc11_15, breCan$mort12_16)
159
160 summary(breCan)
161
```

```
162 # define X and Y range (xlim and ylim)
163 plot(breCan$inc11_15,
164       breCan$mort12_16,
165       xlim = c(105,145),
166       ylim = c(16,25),
167       main="Breast cancer inc. 2011-2015 -- Breast cancer mort. 2012-2016"
168     )
169
170 # define X and Y exact data range
171 plot(breCan$inc11_15,
172       breCan$mort12_16,
173       xlim = c(109.4,140.2),
174       ylim = c(18,23.40),
175       main="Breast cancer inc. 2011-2015 -- Breast cancer mort. 2012-2016"
176     )
177
178 # add state names
179 text(breCan$inc11_15,
180       breCan$mort12_16,
181       breCan$state,
182       cex=0.5
183     )
184
185 # export plot (save to PDF)
186 # end scatterplot 2
187
188 # *****
189 # SCATTER 3
190 # SCATTERPLOT INCIDENCE (X-axis) AND MORTALITY (Y-axis)
191 # ORIGIN = 0
192 # *****
193
194 # scatterplot 3
195 # same as scatterplot 2 but origin = 0 (instead of MIN)
196
197 plot(breCan$inc11_15, breCan$mort12_16)
198
199 # define X and Y range (origin = 0)
200 plot(breCan$inc11_15,
201       breCan$mort12_16,
202       xlim = c(0,145),
203       ylim = c(0,25),
204       main="Breast cancer inc. 2011-2015 -- Breast cancer mort. 2012-2016"
205     )
206
207 text(breCan$inc11_15,
208       breCan$mort12_16,
209       breCan$state,
210       cex=0.2
211     )
212
213 # export plot (save to PDF)
214 # end scatterplot 3
```